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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,408	10/30/2001	Zengjian Hu	42390P11917	9035

7590 06/23/2005

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EXAMINER

SKED, MATTHEW J

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 06/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/017,408	HU ET AL.	
	Examiner	Art Unit	
	Matthew J Sked	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10-30-01
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because they are handwritten and sloppy.
Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because the summary is missing.
Correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 8, 16 and 24 recite the limitation "the natural language processing rules" in the first line of each claim. There is insufficient antecedent basis for this limitation in the claim. The Claims to which they depend on do not mention any natural language processing rules. For the purposes of examination it will be assumed that claims 8, 16 and 24 should depend upon claims 7, 15 and 24 respectively.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6-9, 11-17, 18- 20, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Razin et al. (U.S. Pat. 6,098,034).

As per claims 1, 9 and 17, Razin teaches a method, system and a processor (col. 8, lines 42-45) to execute instructions on a machine-readable medium comprising:

creating a suffix tree to determine the frequency of phrases within a text corpus (constructs a suffix tree from a document where each node in the suffix tree represents the number of recurrences of the particular set of words, col. 3, lines 36-44 and col. 15, lines 43-50);

specifying a set of frequently occurring phrases (extracts a preliminary list of significant phrases based upon length and frequency, col. 15, lines 56 to col. 16, line 18);

filtering to extract entity names (words with structure but lack meaning, which include proper nouns, are abstracted during building of the suffix tree so these elements can be ignored hence extracting them from functionality, col. 4, lines 4-18 and col. 11, lines 37-63); and

filtering the set of frequently occurring phrases to determine a set jargon term candidates (filters the preliminary list to extract nested phrases and dangling words, col. 17, lines 10-28).

Razin does not specifically teach that the extraction of entity names is from the set of frequently occurring phrases.

However, the Examiner takes Official Notice that the more frequent a word is found the more meaning the word would have in the document is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Razin to extract the entity names from the set of frequently occurring phrases because it would allow only the most meaningful entity names to be extracted hence allowing better modification of the language model and better searching of the document.

7. As per claims 2, 10 and 18, Razin teaches sorting each phrase of the set of frequently occurring phrases in descending order prior to filtering the set of frequently occurring phrases (col. 18, lines 43-60).

Razin does not specifically teach sorting in inverse lexicographical order.

However, the Examiner takes Official Notice that sorting in inverse lexicographical order is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Razin to sort in inverse lexicographical order because it would decrease searching time.

8. As per claims 3, 11 and 19, Razin teaches the text corpus is preprocessed (segmentation, col. 11, lines 13-36).

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9. As per claims 4, 12 and 20, Razin teaches the text corpus is a text of a human language (method standardizes phrases in a document hence a human language, col. 3, lines 20-31).

10. As per claims 6, 14 and 22, Razin teaches comparing a component word of a phrase to a dictionary of common words and excluding the phrase from the set (applies a stop list, col. 16, line 58 to col. 17, line 6).

11. As per claims 7, 8, 15, 16, 23 and 24, Razin teaches reducing the set of entity name and jargon term candidates by applying natural language processing rules which includes morphological rules (performs stemming routine to reduce words to their root, col. 12, lines 10-31).

12. Claims 5, 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Razin in view of Chien ("PAT-Tree-Based Keyword Extraction for Chinese Information Retrieval").

Razin does not teach the language to be Chinese.

Chien teaches a system for Chinese information retrieval that filters a prefix tree to remove jargon terms (abstract).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Razin so the language would be in Chinese as taught by Chien because it would make the system more marketable to foreign markets.

Conclusion


13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pedersen et al. (5,638,543) and Withgott et al. (5,384,703) teach methods of extracting stop words from documents to determine the theme of the documents.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J Sked whose telephone number is (571) 272-7627. The examiner can normally be reached on Mon-Fri (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MS
06/21/05


SUSAN MCFADDEN
PRIMARY EXAMINER